

10. NAME(S) OF STRUCTURE

State Bridge Number 119

11. PHOTOS (W/ FILM ROLL & FRAME NO.) AND SKETCH MAP OF LOCATION

44A:3-16



44A:5

Mack, Warren W. "A History of Motor Highways in Delaware", in Reed, Henry Clay, Delaware: A History of the First State, vol.2, pp.535-550 (NY: Lewis Historical Publishing Co., 1947).

Delaware State Program. Delaware State Highways; The Story of Roads in Delaware.... [Newark, Delaware: Press of Kells, 1919].

Federal Writers' Project. Delaware: A Guide to the First State. (New York: Viking Press, 1938).

Delaware State Archives. New Castle County Levy Court Records. Specifications, Proposals, Contract and Bond files.

Delaware State Archives. New Castle County Road Commissioners Records, 1750-1940.

Delaware DOT records: Annual Reports; contract files.

Plans on file at Delaware DOT: Contract # 664, 83-570-01

13. INVENTORIED BY:

AFFILIATION

DATE

P.A.C. Spero & Company with Kidde Consultants for Delaware DOT

April-November 1988

HABS/HAER INVENTORY

See "HABS/HAER Inventory Guidelines" before filling out this card.

1. NAME(S) OF STRUCTURE

State Bridge Number 119

Ashland Bridge

2. LOCATION

Mt. Cuba Road over Red Clay Creek

Ashland, New Castle County, Delaware

3. DATE(S) OF CONSTRUCTION

1938

4. USE (ORIGINAL/CURRENT)

Vehicular

5. RATING

SG

6. CONDITION

Fair: Heavy deterioration of concrete curb. Many cracks with calcium deposits on underside of slab. Some rusting of structural steel. Poor approaches.

State Highway Bridge 119 is a 100'-0" long built-up through plate girder span, carrying two lanes of traffic on a 24'-0" wide deck. The superstructure comprises two 7'-0" deep, built-up plate girders, supported on concrete abutments with U-shaped wing walls; there are fixed bearings at the west abutment and expansion bearings at the east, both pinned. A concrete deck is carried on 24" I-beam floor beams spaced at 6'-0" intervals. The wing walls carry concrete parapets, with "skyscraper-style" end posts spanned by horizontal banded walls. The girder is half-through and forms the railing for the bridge.

Delaware Department of Transportation records state that Bridge 119 was built in 1938. The previous bridge at this crossing was a covered timber bridge dating from the mid-nineteenth century that was destroyed by severe flooding on July 13, 1938. Drawings on file at the Delaware Department of Transportation document the configuration and construction details of the replacement structure, built in 1939 by Olivere Paving and Construction Company of Wilmington, Delaware under State Highway Department Contract #664 (P.W.A. Project No. 1039F). The contract, estimated at \$28,507.20, was awarded on December 24, 1938; the award letter instructed the contractor: "it will be necessary for you to start this job not later than Wednesday, December 28th." A portion of the bridge replacement cost was funded with monies from the Public Works Administration. Shop sketches and shipping bills for materials provided by the American Bridge Company, fabricators of the structural steel, also survive in DelDOT files. Handwritten notes on the drawings record the progress of the project in minute detail, indicating, among other things, that the footings were poured between January 16 and March 14, 1939, and the slab was placed in four days (from May 8 to 12, 1939). Structural steel was from the Carnegie-Illinois Steel Corporation. The drawings also include detailed plans and elevations for the "skyscraper style" parapet blocks, and for the built-up plate girders. The bridge was designed to accommodate a 20 ton truck load with no impact. Reinforcing steel was furnished by Taylor-Davis, Inc., of Philadelphia; the Deemer Steel Casting Company of New Castle, Delaware provided the bearings. A change order was issued during the construction process authorizing the contractors to build a rubble masonry retaining wall to provide fill protection for the farm entrance adjacent to the bridge. The final cost of the structure was \$25,542.25, representing an underrun of \$2964.75 from the proposal cost.

State Bridge No.119, constructed in 1938, is the only example of a plate girder highway bridge surveyed in Delaware. Steel girder bridges were built prolifically across the United States from the late nineteenth century throughout the twentieth century. By the end of the nineteenth century, the girder bridge was established in all its forms: plate girders, I-beams and concrete encased I-beams. All girder types continued in use into the twentieth century. In 1900, girder bridges were used for spans less than 100 feet long, but by 1930, spans were built up to 150'. Although, most girder types are well-represented in this survey, there was only one plate girder bridge surveyed, possibly because they were not widely built in Delaware. Data from the 1920s Delaware DOT photo archives included only two bridges described as "plate girder spans". In the early 1930s, the New Castle County Levy Court had begun a systematic program of replacing those timber covered bridges which had developed structural and/or functional deficiencies. After it assumed responsibility for the construction and maintenance of all local roads in 1935, the Highway Department continued this program. Bridge 119 was one of the replacement bridges; the construction of a new steel girder bridge for the Mt. Cuba crossing reflects changes in technology, materials and aesthetics associated with the ascendancy of the automobile. State Bridge 119 an unusual example of a common bridge type, features unusual concrete ornamentation; plate girder bridges were most often built as utilitarian structures devoid of such embellishment.